CLAIMS

1. (currently amended) A discharge lamp having a reflector and cooling means, which cooling means has at least one nozzle (3; 31, 32, 33, 34) through which a flow of gas can be directed onto the discharge lamp, wherein the at least one nozzle (3; 31, 32, 33, 34) is arranged such that it does not extend, at least to any substantial degree, into a beam path produced by the lamp (2) and the reflector (1)
wherein no part of the cooling means is located inside a cavity formed by the reflector.

2. (original) A discharge lamp as claimed in claim 1, wherein the at least one nozzle (3; 31, 32, 33, 34) is inserted in a hole in the reflector (1).

3. (previously presented) A discharge lamp as claimed in claim 1, wherein a velocity of the flow of gas emerging from the at least one nozzle (3, 31, 32, 33, 34) is of a value such that a turbulent flow is produced that surrounds at least part of the lamp (2).

4. (original) A discharge lamp as claimed in claim 1, wherein at least two nozzles (31, 32; 33, 34) that are at an angle to one another are directed at the discharge lamp (2) such that a turbulent flow is produced that surrounds at least part of the lamp (2).

5. (original) A discharge lamp as claimed in claim 4, wherein the nozzles (31, 32; 33, 34) are at an angle of approximately 90° to one another.

6. (previously presented) A discharge lamp having a reflector and cooling means, which cooling means has at least one nozzle (3; 31, 32, 33, 34) through which a flow of gas can

be directed onto the discharge lamp, wherein the at least one nozzle (3; 31, 32, 33, 34) is arranged such that it does not extend, at least to any substantial degree, into a beam path produced by the lamp (2) and the reflector (1),

wherein a first sensor (41) is arranged adjacent at least one of the nozzles (3; 31, 32, 33, 34) to sense the velocity and/or the pressure and/or the flow-rate of a flow of gas passing through the nozzle (3; 31, 32, 33, 34).

7. (previously presented) A discharge lamp as claimed in claim 1, wherein at least one first nozzle (31, 32) is directed at a region of a discharge vessel (21) that is at the top in the position in which the discharge lamp (2) is operating, and at least one second nozzle (33, 34) is directed at a region of the discharge vessel (21) that is at the bottom in this same operating position.

8. (previously presented) A discharge lamp as claimed in claim 7, wherein a velocity of the flow of gas passing through at least one of the nozzles (3; 31, 32, 33, 34) can be controlled as a function of the operating position of the discharge lamp (2).

9. (previously presented) A discharge lamp having a reflector and cooling means, which cooling means has at least one nozzle (3; 31, 32, 33, 34) through which a flow of gas can be directed onto the discharge lamp, wherein the at least one nozzle (3; 31, 32, 33, 34) is arranged such that it does not extend, at least to any substantial degree, into a beam path produced by the lamp (2) and the reflector (1),

wherein at least one first nozzle (31, 32) is directed at a region of a discharge vessel (21) that is at the top in the position in which the discharge lamp (2) is operating, and at least one second nozzle (33, 34) is directed at a region of the discharge vessel (21) that is at the bottom in this same operating position,

wherein a second sensor (12) is provided to sense the operating position of the discharge lamp (2) and to control the velocity of the flow of gas passing through at least one of the nozzles (3; 31, 32, 33, 34) as a function of the operating position.

10-15. (cancelled)

16. (previously presented) A discharge lamp comprising

a reflector;

a discharge vessel for emitting light onto the reflector, thereby creating a beam path;

cooling means for adquately cooling an upper region of the lamp, while a bottom region is not too severely cooled, in a position independent fashion, the cooling means comprising

at least first and second independently controllable nozzles for directing a flow of gas into the lamp, the nozzles being arranged such that they do not extend, at least to any substantial degree, into the beam path, and so that an upper region of the lamp is adequately cooled, while a bottom region is not too severely cooled;

at least one first sensor for measuring a cooling effect of the nozzles; and

at least one second sensor for detecting an operation position of the lamp.

17. (cancelled)

CLAIMS

18. (previously presented) The discharge lamp of claim 3, wherein the flow of gas is not pulsed.

19. (previously presented) The discharge lamp of claim 8, wherein control of the flow as a function of position occurs automatically responsive to sensed position.

20. (previously presented) The discharge lamp of claim 7, wherein the flow is adapted for non-uniform cooling so that a top portion of the discharge vessel is cooled more than a bottom portion.

21-25 (cancelled)